Re: LightSquared

FCC Docket 11-109

Submitted by Arthur Lange, Sunnyvale CA

Summary:

LightSquared's application to use the MSS band for terrestrial transmitters should be denied because if LightSquared terrestrial transmissions are permitted, it will increase the cost of food for the US consumer. US Farmers rely heavily on GPS for production efficiency, and without GPS, farmers will face both increased food production costs and a decrease in farm productivity. The threat to US food security is a direct effect of LightSquared proposed use of any portion of the MSS L-band which is adjacent to the GPS L1 band.

GPS use in Agriculture

Many large scale farmers in the USA use precision GPS receivers in all aspects of food production, for field preparation, for planting, for in-season agrichemical application, for and for harvesting which covers the entire growing season. These large scale farmers represent about 80% of US food production. Farmers use Precision GPS receivers with Satellite Differential corrections, to obtain accuracies in the 1 to 4 inch range. The precision GPS receivers use both GPS signals and correction signals from satellites in the MSS L-band which is adjacent to the GPS band and is the same band that LightSquared is proposing to use for their terrestrial transmitters. These precision GPS receivers are very sensitive and the strong in-band terrestrial signals from a LightSquared base station, and as a result the LightSquared terrestrial signals will block the much weaker satellite correction signals. The LightSquared signals will also block the GPS signals because the farmer's precision GPS receivers use a common antenna for both adjacent bands. Loss of the use of High Performance GPS receivers will decrease grower's efficiencies resulting in higher production costs and lower crop yields, resulting in a loss of Food Security. This decrease in USA farmer production efficiency caused by the loss of GPS will lower the available food production and will cause increased food costs.

A large number of farms are adjacent to the suburbs, which means that even if LightSquared were restricted to urban areas, it would not solve the interference problem to farmers.